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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,008	02/08/2002	Hitotoshi Kimura	Q68459	6420

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EXAMINER

VO, ANH T N

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/068,008

Applicant(s)

KIMURA ET AL.

Examiner

Anh T. N. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 4, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 45, 82, and 83 is/are pending in the application.
- 4a) Of the above, claim(s) 83 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 45, and 82 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 and 7
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Oath/Declaration

The declaration filed 25 April 2002 is acceptable.

Election /Restriction

1. Applicant 's election without traverse of invention I (i.e. claims 1-18, 45, and 82-83) in Paper No. 10 is acknowledged.
2. Claims 19-81 and 83 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to non-elected invention. Election was made **without** traverse in paper No. 10.
3. Applicants request that claim 83 be included in elected Group I. It is not acceptable because claim 83 is a step of a method and has been included in Group 3, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Preliminary Amendment

Acknowledgement is made of the receipt of Preliminary Amendment filed 04 March 2003.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

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The references cited on PTOL 1449 have been considered.

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

CLAIM REJECTIONS

Claim Rejections - 35 U.S.C. § 112

Claims 8-16 and 45-82 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Appropriate correction or clarification is required.

In claim 8, the recitation "the subtank . . . heads" is misdescriptive because it is inconsistent with what is shown on the drawings. For example, Figure 2 shows that all of subtanks communicated with heads instead of only one subtank . Thus, the phrase "subtank is" should be corrected as --subtanks are-- for proper support. The same is true in that "main tank" in claims 9-10, 45 should be corrected as --main tanks-- or "main tank" on line 3 of claim 13 should be corrected as --subtank--.

In claim 19, it is not understood what the "higher priority" is, how "the time period" can be "is shorter is controlled" with the higher priority and how this limitation is read on the preferred embodiment.

The remaining claims are dependent from the above claims and therefore also considered indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-16 and 45, are rejected under 35 USC 102 (a) as being anticipated by Junya (EP Pat. 0965451A2).

Junya discloses in Figures 1-17 an ink jet printer comprising:

- at least one main tank (134) which stores ink therein (Figure 9);
- a plurality of sub tanks (50), communicated with each main tank (134), each sub tank storing ink supplied from the main tank, and being communicated with at least one recording head (1) (Figure 9, page 10, lines 31-32);
- wherein a plurality of main tanks (134K, 134Y, 134M, 134C) are provided;
- wherein the sub tanks (50K, 50Y, 50M, 50C) are arranged in a vertical direction (Figure 9);
- wherein each sub tank (50b) is airtightly formed by a material having flexibility so that a volume of the sub tank is variable;

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- a first ink amount detector (50e) which detects an ink amount stored in each subtank (50) (Figure 2);
- a first supply amount controller (66) which controls a supply amount of ink flowing into each subtank (50), based on the detection of the first ink amount detector (50e) (Figure 2);
- wherein the first supply amount controller (66) is provided as a first valve member.
- the first valve member (66) is opened when the first ink amount detector (50e) detects an ink low state in which the ink amount stored in the subtank (50b) is a first predetermined level or less (Figure 2);
- the first valve member (66) is closed when the first ink amount detector (50e) detects an ink full state in which the ink amount stored in the subtank is a second predetermined level or more (Figure 2);
- the subtank is communicated with a plurality of recording heads.
- the main tank and the subtanks are arranged so as to provide a head difference therebetween, to supply ink from the main tank to the subtanks (Figures 2 and 10);
- the main tank (134) is compressed to supply ink to the subtanks (50) (Figures 2 and 9);
- wherein the main tank (134) is compressed by a pump member (44) (Figure 9);
- wherein the pump member (44) is connected to the main tank (134) via an air releaser (42) which opens the main tank (134) to atmosphere (Figure 9);
- a second supply amount controller (49), which controls a supply amount of ink flowing out of the main tank (134) (Figure 9);
- wherein the second supply amount controller (49) is provided as a second valve member;
- the second valve member (49) is first opened while the main tank (134) is compressed, and then the first valve member (51) is opened to supply ink to the subtank (Figure 9); and
- wherein the first valve member (51) is first closed and the compressing of the main tank (134) is canceled when the subtank is replenished, and the second valve member (49) is then closed (Figure 9).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior arts are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17- 18 are rejected under 35 USC 103 (a) as being unpatentable over Junya (EP Pat. 0965451A2) in view of Uzita (US Pat. 5,221,935).

Junya discloses the basic features of the claimed invention was stated above but does not disclose the ink jet printer comprising each subtank contains a plate member which prevents inner surfaces of the subtank from being adhered with each other; wherein grooves are formed on surfaces of the plate member.

Uzita discloses in Figures 8-10 an ink jet printer comprising an ink tank (3) contains a plate member (two unmarked rod elements) which prevents inner surfaces of the ink tank (3) from being adhered with each other.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Uzita et al. in the Junya ink jet printer for the purpose of preventing the inner surfaces of the ink tank adhering each other.

Junya in view of Uzita et al. disclose the claimed invention except for "grooves are formed on surfaces of the plate member". It would have been obvious to one having ordinary

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skill in the art at the time the invention was made to select changes in the shape of the plate member for the purpose of preventing the inner surfaces of the ink container adhering each other, since it is a mechanical design expedient for an engineer depending upon a particular environment and the applications in which the ink jet cartridge is to be used. In re Daily, 357 F.2d 669, 149 USPQ 47 (CCPA 1966). See MPEP 2144.04.

Claim 82 is rejected under 35 USC 103 (a) as being unpatentable over Junya (EP Pat. 0965451A2) in view of Hmelar et al. (US Pat. 6,151,039)

Junya discloses the basic features of the claimed invention was stated above but does not disclose the ink jet printer comprising a memory for storing a residual ink amount in the main tank.

Hmelar et al. disclose in Figures 2 and 4 an ink container (110) comprising a memory for storing a residual ink amount in the ink tank (column 4, lines 51-65)

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the teaching of Hmelar et al. in the Junya ink jet printer for the purpose of determining a remained ink amount in the ink container.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Anh Vo whose telephone number is (703) 305-8194. The examiner can normally be reached on Tuesday to Friday from 8:00 A.M.to 5:30 P.M..

The fax number of this Group 2861 is (703) 305-3431 or 305-3432.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'An H.T.N. Vo', with a stylized, flowing script.

AN H.T.N. VO
PRIMARY EXAMINER

March 13, 2003